

### Abstract

An apparatus for collecting and sensing light in a projector, comprising a cold mirror positioned directly in the incident light path from a lamp and illumination optics of the projector for reflecting a large portion of visible light towards a light imaging device while transmitting IR and UV light and a small portion of the visible light; a secondary mirror for reflecting the small portion of the visible light, an integrating box positioned to collect and integrate the small portion of visible light, a light tube in optical communication with the integrating box for further integrating and attenuating the small portion of visible light, and an electro-optic device within the light tube for measuring the small portion of visible light within the light tube and generating an electrical signal in response thereto.